POVARENNYKH, A.S. [Povarennykh, O.S.]

Hardness of the sulfides of the transitional elements. Dop. AN UkrSR no. 2:110-112 '65. (MIRA 18:2)

1. Institut geologicheskikh nauk AN [illegible] akademikom AN UkrSSR N.P. Semenenko [Semenenko, M.P.]

POVARENNYKH, A.S. [Povarennykh, O.S.]

Dependence of the microhardness of minerals on crystallochemical factors. Dop. AN URSR no.11:1526-1529 '64.

(MIRA 18:1)

1. Institut geologicheskikh nauk AN UkrSSR. Predstavleno akademikom AN UkrSSR N.P. Semenenko [Semenenko, M.P.].

POVARENNYKH, A.S., prof., doktor geologo-mineralogicheskikh nauk

Present-day concepts of mineral species. Sbor. nauch. trud. (MIRA 17:8)
KGRI no.10:25-37 '61

Formulas for computing the specific gravity of cubic crystals of the "AB" type. Sbor. nauch. trud. KGRI no.10:38-44

Some characteristics of the specific gravity of the elements related to the a- and b- subgroups in the periodic system. Ibid.:45-50.

POVARENNYKH, A.S. [Povarennykh, O.S.]

Formulas for the calculation of the specific gravity of crystals of the AX_2 type. Dop. AN URSR no.6:805-808 '63 (MIRA 17:7)

1. Institut geologicheskikh nauk AN UkrSSR. Predstavleno akademikom AN UkrSSR V.G. Bondarchukom [Bondarchuk, V.H.].

POVARENNYKH, A.S. [Povarennykh, O.S.]

Necessary changes in Moh's scale of hardness. Dop. AN URSR no. 6:824-826 '64. (MIRA 17:9)

1. Institut geologicheskikh nauk AN UkrSSR. Predstavleno akademikom AN UkrSSR V.G.Bondarchukom [Bondarchuk, V.H.].

POVARENNYKH, A.S.

Using the electronegativity of elements in crystallochemistry and mineralogy. Part 1. Zap. Ukr. otd. Min. ob-va [no.1] :3-28 '62.

Mohs fifteen-point hardness scale. Ibid.:67-74

Correct notation of the chemical formulas of minerals with defective structures. Ibid.:124-128

Concerning I.I. Shafranovskii's book "Lectures on the morphology of mineral crystals." Ibid.:166-169

Concerning E. Onorato's book "Introduction to a course in mineralogy." Ibid.:169-172 (MIRA 16:8)

1. Institut geologicheskikh nauk AN UkrSSR, otdel mineralogii, Kiyev.

PLATONOV, A.N., inzh., otv. red.; POVARENNYKH, A.S., doktor geologo-min. nauk, prof., glav. red.; AGAFONOVA, T.N., kand. geol-min. nauk, dots., red.; BELEVTSEV, Ya.N., prof., red.; GAVRUSEVICH, B.A., kand. geol.-min.nauk, dots., red.; GLADKIY, B.N., inzh., red.; IVANTISHIN, M.N., doktor geol.-miner. nauk, red.; KHATUNTSEVA, A.Ya., kand. geol.-miner. nauk, red.; ZAVIRYUKHINA, V.N., red.; DAKHNO, Yu.M., tekhn. red.

[Annals of the Ukrainian Branch of the All-Union Mineralogical Society] Zapiski Ukrainskogo otdeleniia Vsesoiuznogo mineralogicheskogo obshchestva. Kiev, Izd-vo AN USSR, 1962. 184 p. (MIRA 17:3)

1. Akademiya nauk URSR, Kiev. Ukrainskoye otdeleniye Vsesoyuznogo mineralogicheskogo obshchestva. 2. Chlen-korrespondent AN Ukr.SSR (for Belentsev).

BABINETS, A.Ye.; BELEVTSEV, Ya.N.; BONDARCHUK, V.G.; KONDRACHUK, V.Yu.; POVARENNYKH, A.S.; SEMENENKO, N.P.; SKURIDIN, S.A.; TKACHUK, L.G.

In memory of Sergei Petrovich Radionov. Zap. Ukr. otd. Min. ob-va [no.1]:173-178 '62. (MIRA 16:8)

POVARENNYKH, A.S., prof., doktor geologo-mineralogicheskikh nauk

Relationship between the melting point of crystalline matter and the type of chemical bond. Sbor. nauch. trud. KGRI no.7:7-18 '59. (MIRA 16:9)
(Crystals--Thermal properties) (Chemical bonds)

POVARENNYKH, A.S., prof., doktor geologo-mineral.nauk

Scale of the luminosity of minerals and the chemical bond. Sbor. nauch. trud. KGRI no.7:19-28 '59. (MIRA 16:9)
(Mineralogical chemistry) (Chemical bonds)

POVARENNYKH, A.S. [Povarennykh, O.S.]

Formulas for determining the specific gravity of type A_2X_3 and AX_3 crystals. Dop. AN URSR no.8:1089-1092 '63. (MIRA 16:10)

1. Institut geologicheskikh nauk AN UkrSSR. Predstavleno akademikom AN UkrSSR V.G. Bondarchukom [Bondarchuk, V.H.)
(Crystals) (Specific gravity)

POVARENNYKH, A.S.

Basic law of crystallochemistry. Min. stor. no.16:57-67 '62. (MIRA 16:10)

1. Institut geologicheskikh nauk AN UkrSSR, Kiyev.
(Crystallography)

POVARENNYKH, A.S., doktor geol.-miner. nauk, prof., otv. red.; AGAFONOVA, T.N., kand. geol.-miner. nauk, dots., red.; BELEVTSEV, Ya.N., prof., red.; GAVRUSEVICH, B.A., kand. geol.-miner. nauk, dots., red.; GLADKIY, V.N., inzh., red.; IVANTISHIN, M.N., doktor geol.-miner. nauk, red.; PLATONOV, A.N., inzh., red.; KHATUNTSEVA, A.Ya., kand. geol.-miner. nauk, red.; ZAVIRYUKHINA, V.N., red.izd-va; TURBANOVA, I.A., tekhn. red.

[Theoretical and genetic problems of mineralogy and geochemistry] Teoreticheskie i geneticheskie voprosy mineralogii i geokhimii. Kiev, Izd-vo AN USSR, 1963. 165 p. (MIRA 16:12)

1. Akademiya nauk URSR, Kiev. Ukrainskoye otdeleniye Vsesoyuznogo mineralogicheskogo obshchestva. 2. Chlen-korrespondent AN Ukr.SSR (for Belevtsev).
(Mineralogy) (Geochemistry)

POVARENNYKH, A.S.[Povarennykh, O.S.]

Conference of the Commission on Mineralogy and Geochemistry of the Carpatho-Balkan Association held in Sofia. Geol. zhur. 23 no.2:100-102 '63. (MIRA 16:6)

(Carpathian Mountains--Mineralogy)
(Balkan Mountains--Mineralogy)

POVARENNYKH, A. S.

What is a mineral? Concerning D. P. Grigor'ev's article. Zap. Vses. min. ob-va 91 no.4:493-498 '62. (MIRA 15:10)

1. Institut geologicheskikh nauk AN UkrSSR, Kiyev, otdel mineralogii.

(Minerals)

S/866/62/000/001/001/001
A004/A126

AUTHOR: Povarennykh, A.S.

TITLE: On a fifteen division Mohs' scale of hardness

SOURCE: Vsesoyuznoye mineralogicheskoye obshchestvo. Ukrainskoye otdeleniye. Zapiski. no. 1, 1962, 67 - 74

TEXT: The author presents an analysis of papers dealing with an extension of the present Mohs' hardness scale with its ten degrees of hardness by introducing additional standards of hardness, and suggests an improved version. The great interval existing in the present scale of hardness between corundum and diamond, taking the hardness of diamond in relative units as being equal to 15, is supplemented by five new substances of a gradually increasing hardness. These substances on which the new standards are based are: TiC - No. 10, boron - No. 11, B_4C - No. 12, $B_{6,5}C$ - No. 13 and borazon BN - No. 14. The microhardness of these substances, expressed in relative units (in Khrushchov's classes of hardness) shows small deviations from whole numbers, corresponding to numbers of the scale. These deviations have the same order as all former nine standard minerals.

Card 1/2

On a fifteen division Mohs' scale of hardness

S/866/62/000/001/001/001
A004/A126

On the whole, a fifteen-division Mohs' scale with approximately equal intervals between the steps is obtained. There is 1 figure and 2 tables.

Card 2/2

POVARENNYKH, A.S.

Calculation of the hardness of complex minerals based on crystallochemical data. Min. sbor. no.14:141-156 '60. (MIRA 15:2)

1. Gornorudnyy institut, Krivoy Rog.
(Mineralogy)

S/081/62/000/017/004/102
B166/B180

AUTHOR: Povarennykh, A. S.

TITLE: A formula for calculating the Mohs hardness of metals

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1962, 28, abstract 17B158 (Sb. nauchn. tr. Krivorozhsk. gornorudn. in-t, no. 11, 1961, 21 - 32)

TEXT: The Mohs hardness of metals depends on the same crystallochemical factors as that of ionic and covalent compounds, and can be calculated by the same kind of formula. For the majority of transition metals the hardness figures are found to be exaggerated. This is due to small quantities of impurity elements with which they form compounds of the covalent type (e.g. C, N, H and others). For the atoms of most metals the effective valence is lower than the maximum tabulated figure. In metallic crystals the strength of the bond was found to be ~20 % lower than in the purely ionic reference compounds, when reduced to equal crystallochemical conditions. [Abstracter's note: Complete translation.]

Card 1/1

POVARENNYKH, A.S.

Effect of electrons nonparticipating in the bond on the properties of crystals. Zap. Vses. min.ob-va 90 no.2:220-225 '61. (MIRA 14:9)

1. Krivorozhskiy gornorudnyy institut.
(Electrons) (Crystals)

POVARENNYKH, A.S. [Povarennykh, O.S.]

Causes of the differences in the geochemical behavior of molybdenum and tungsten in endogenic processes. Geol.zhur. 21 no.5:39-47 '61. (MIRA 14:10)

1. Krivorozhskiy gorno-rudnyy institut. (Molybdenum) (Tungsten)

S/081/61/000/021/007/094
B102/B138

AUTHOR: Povarennykh, A. S.

TITLE: The problem of the influence of electrons which do not participate in bond upon the properties of a crystal

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1961, 21, abstract 21B165 (Zap. Vses. mineralog. o-va, v. 90, no. 2, 1961, 220 - 225)

TEXT: Unshared valence electrons, which are characteristic of the shells of certain elements, are of very great importance since they affect the refractive index of light, melting point and the hardness of the crystals. The refractive index increases, and melting point and hardness decrease, as the total number of non-bound electrons rises, especially if they are paired. Under otherwise equal conditions the effect of non-bound electrons depends on the state of chemical bond in the crystals: for essentially ionic substances their effect is weak, for essentially covalent crystals their effect is highest. [Abstracter's note: Complete translation.]

Card 1/1

POVARENNYKH Aleksandr Sergeyevich; BURKSER, Ye.S., retsenzent;
IVANTISHIN, M.N., doktor geol.-min. nauk, retsenzent;
LITVIN, A.L., kand. geol.-min. nauk, otv. red.;
GAVRUSEVICH, B.A., dots., red.; ZAVIRYUKHINA, V.N., red.;
LISOVETS, A.M., tekhn. red.; REKES, M.A., tekhn. red.

[Hardness of minerals] Tverdost' mineralov. Kiev, Izd-vo AN USSR, 1963. 303 p. (MIRA 17:3)

1. Chlen-korrespondent AN Ukr. SSR (for Burkser).

TRUSKOLYAVSKAYA, T.; POVARENNYKH, L.

From technical peroidicals. Standartizatsiia 24 no.4:60-62 Ap '60. (MIRA 13:9)

(Bibliography--Standardization)

POVARENNYKH, L.

From technical periodicals. Standartizatsiia 24 no.6: 59-61 Je '60. (MIRA 13:7)
(Bibliography--Standardization)

POVARENNYKH, L.

From technical periodicals. Standartizatsiia 24 no.7:62-64 Jl.'60. (MIRA 13:7)
(Standardization)

POVARENNYKH, L.S.

From technical periodicals. Standartizatsiia 26 no.4:60-62 Ap '62. (MIRA 15:3)

(Standardization)

GAYDENKO, P.; POVARENNYKH, L.S.; TRUSKOLYAVSKAYA, T.

From technical periodicals. Standartizatsiia 24 no.12:46-49 D '60.
(MIRA 13:11)

(Bibliography--Standardization)

GERASIMOV, D.F.; POVARENNYKH, L.S.

From technical periodicals. Standartizatsiia 25 no.10:60-63 O '61. (MIRA 14:9)
(Bibliography---Standardization)

TRUSKOLYAVSKAYA, T.V.; POVARENNYKH, L.S.

From technical periodicals. Standartizatsiia 26 no.7:59-62 Jl '62. (MIRA 15:7)
(Bibliography--Standardization)

POVARENNYKH, L.S.

Meetings of the technical committees of the International Standards Organization. Standartizatsiia 28 no.2:56-59 F '64. (MIRA 17:3)

POVARENNYKH, L.S.

From technical periodicals. Standartizatsiia 27 no.2:61-63 F '63. (MIRA 16:4)

(United States—Standardization)

POVARENNYKH, L.S.

From technical periodicals. Standartizatsiia 26 no.9:62-63 S '62. (MIRA 15:9)
(Great Britain--Metric system)

POVARENNYKH, L.S.

From technical periodicals. Standartizatsiia 25 no.3:62-63 Mr '61. (MIRA 14:3)

(Bibliography--Standartization)

TRUSKOLYAVSKAYA, T.V.; DEMIDOVICH, D.; POVARENNYKH, L.S.

From technical periodicals. Standartizatsiia 24 no.11:51-54 N '60.
(MIRA 13:11)

(Bibliography--Standardization)

IVANTISHIN, Mikhail Nikoaleyvich[Ivantyshyn, M.M.]; ZAYATS, Aelita Petrovna[Zaiets', A.P.]; KUTS, Vladimir Pavlovich; POVARENNYKH, O.S., prof., otv. red.; BYCHKOVA, R.I., red.; LUKASHENKO, T.Z., red.

[Accessory rare minerals and dispersed elements in metamorphic rocks of the Ukrainian crystalline shield] Aktsesorni ridkisni mineraly ta rozsiiani elementy v metamorfichnykh porodakh ukrains'koho krystalichnoho shchyta. Kyiv, Naukova dumka, 1965. 69 p. (MIRA 18:9)

SEMENENKO, M.P., akademik, otv. red.; POVARENNYKH, O.S., doktor geol. nauk, prof, zam. otv. red.; BURKSER, E.S., red.; IVANTISHIN, M.M.[Ivantyshyn, M.M.], doktor geol.-min. nauk, red.; TKACHUK, L.G.[Tkachuk, L.H.], doktor geol-min, nauk, prof., red.; SHNYUKOV, E.F., kand. geol.-min. nauk, red.; LISOVETS', O.M.[Lysovets', O.M.], tekhn. red.

[Geochemistry, mineralogy, and petrography; on the centenary of the birth of K.I.Vernadskii, First President of the Academy of Sciences of the Ukrainian S.S.R.] Pytannia geokhimii, mineralogii i petrografii; do 100-richchia z dnia narozhdennia pershoho prezydenta AN Ukrains'koi RSR akademika V.I.Vernads'koho. Kyiv, Vyd-vo AN URSR, 1963. 335 p. (MIRA 16:8)

1. Akademiya nauk URSR, Kiev. Instytut geologichnykh nauk. 2. Akademiya nauk Ukr.SSR (for Semenenko). 3. Chlen-korrespondent AN Ukr.SSR (for Burkser).
(Geochemistry) (Mineralogy) (Petrology)
(Vernadskii, Vladimir Ivanovich, 1863-1945)

S/075/60/015/004/006/030/XX
B020/B064

AUTHORS: Starobinets, G. L. and Povarkov, E. V.

TITLE: Partition Chromatography of Aromatic Hydrocarbons on Rubber-like Polymers

PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol. 15, No. 4, pp. 405 - 408

TEXT: Hydrophobic carrier substances such as crude and vulcanized rubber, as well as benzene and n-heptane were successfully used as steady phases in partition chromatography for separating some mixtures of polar organic compounds (sebacic acids, nitrotoluenes, etc). Since it is difficult to find a carrier whose adsorption may be entirely neglected, the attempt was made to use rubber-like polymers as steady phases; in this connection it was found that the latter are selective solvents for hydrocarbons, and that equilibrium is quickly established, especially when loosely linked and unfilled polymers are used. In the present investigation, the chromatographic method of separating mixtures of aromatic hydrocarbons is used, which is based upon the distribution of the

Partition Chromatography of Aromatic Hydrocarbons on Rubber-like Polymers

S/075/60/015/004/006/030/XX
B020/B064

analyzed components among the steady polymer phase and the mobile low-molecular liquid phase. Vulcanized butadiene styrene rubber СКБ (SKB) of the following composition served as steady phase: butadiene styrene rubber SKB - 100 parts by weight, sulfur - 2 parts by weight, Ruberax - 3 parts by weight, Captax - 1.25 parts by weight, stearic acid - 1.25 parts by weight, diphenyl guanidine - 0.5 parts by weight, and ZnO - 5 parts by weight. A methanol - water mixture with a water content of 37.2, 36.3, 29.4, and 24.6 vol% was the mobile phase used for a preliminary investigation of the distribution coefficients of aromatic hydrocarbons among the polymer and the methanol-water mixture that was of different composition. The ratio between the solubility of the respective hydrocarbon in the polymer and in the binary solution served as distribution coefficient. The solubility of the hydrocarbon was found by extrapolating the swelling-kinetics-versus-time curve for zero time in an air thermostat at a temperature of 23 ± 0.5°C. The results obtained for the solubility and the distribution coefficients of all mobile solvents used are given (Table 1). Fig. 1 shows the refractive index increments obtained with the refractometer ИРФ-23 (IRF-23) as a function of the hydrocarbon concentration for a number of ternary mixtures with a

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analyzed components among the steady polymer phase and the mobile low-molecular liquid phase. Vulcanized butadiene styrene rubber СКБ (SKB) of the following composition served as steady phase: butadiene styrene rubber SKB - 100 parts by weight, sulfur - 2 parts by weight, Ruberax - 3 parts by weight, Captax - 1.25 parts by weight, stearic acid - 1.25 parts by weight, diphenyl guanidine - 0.5 parts by weight and ZnO - 5 parts by weight. A methanol - water mixture with a water content of 37.2, 36.3, 29.4, and 24.6 vol% was the mobile phase used for a preliminary investigation of the distribution coefficients of aromatic hydrocarbons among the polymer and the methanol-water mixture that was of different composition. The ratio between the solubility of the respective hydrocarbon in the polymer and in the binary solution served as distribution coefficient. The solubility of the hydrocarbon was found by extrapolating the swelling-kinetics-versus-time curve for zero time in an air thermostat at a temperature of 23 $\pm$ 0.5°C. The results obtained for the solubility and the distribution coefficients of all mobile solvents used are given (Table 1). Fig. 1 shows the refractive index increments obtained with the refractometer ИРФ-23 (IRF-23) as a function of the hydrocarbon concentration for a number of ternary mixtures with a

Partition Chromatography of Aromatic Hydrocarbons on Rubber-like Polymers

S/075/60/015/004/006/030/XX
B020/B064

constant volume concentration of alcohol. These diagrams are straight lines for the system methanol - water - toluene whose angle of inclination depends on the volume concentration of alcohol in the ternary mixture. The calibration diagram:angle of inclination of the straight line as a function of the volume concentration of alcohol is also plotted. All calibration diagrams (Fig. 2) were plotted at 22 $\pm$ 0.5°. Fig. 3 shows the calibration diagrams characteristic of a benzene-toluene-n-xylol-mesitylene mixture. The mean error of determination is not higher than 5%. Table 2 gives the mobility of the hydrocarbons and also the distribution coefficients for benzene and toluene determined therefrom. A considerably higher ratio of the cross sections for the steady and mobile phases can be attained as compared with silica gel and other carriers when polymers are the steady phase; thus, an increase in the selectivity of separation is possible. The method suggested is suited for analyzing hydrocarbons in petroleum distillates. This paper was read in the Section of Analysis of the VIII Mendeleyevskiy s"yezd (VIII Mendeleyev Congress) on March 21, 1959. There are 3 figures, 2 tables, and 7 references: 2 Soviet, 2 US, 1 British, 1 Polish, and 1 Dutch.

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Partition Chromatography of Aromatic Hydrocarbons on Rubber-like Polymers

S/075/60/015/004/006/030/XX
B020/B064

ASSOCIATION: Belorusskiy gosudarstvennyy universitet im V. I. Lenina, Minsk (Belorussian State University imeni V. I. Lenin, Minsk)

SUBMITTED: June 2, 1959

Card 4/4

S/081/60/000/022/015/016
A005/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 22, p. 566, #91066

AUTHORS: Starobinets, G. L., Povarkov, E. V.

TITLE: The Dynamical Sorption of Binary Solutions by the Vulcanized Rubber of Sodium Butadiene Caoutchouc

PERIODICAL: Tr. khim fak Belorussk. un-t. Minsk, 1960, pp. 65-73

TEXT: A dynamical method was developed for studying the distribution of a binary mixture of the solvent - non-solvent type between a polymer and a solution. The polymer powder is placed into a column and saturated by the solvent. Then from above the non-solvent is poured over, and the composition of the fractions, sampled successively, of the solvent coming out from the column is determined. The equations are derived for calculating the equilibrium curves. The method is checked at the following systems: vulcanized rubber of sodium butadiene caoutchouc - benzene - ethyl-alcohol and vulcanized rubber - benzene- n-butyl-alcohol. The equilibrium curves obtained agree with the curves obtained earlier (RZhKhim, 1955, No. 14, # 28699) by the static method. The dynamic method is somewhat less precise

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S/081/60/000/022/015/016
A005/A001

The Dynamical Sorption of Binary Solutions by the Vulcanized Rubber of Sodium Butadiene Caoutchouc

than the static one, but it makes it possible to estimate quickly the distribution of low-molecular components between the polymer and the binary solution.

T. Slonim

Translator's note: This is the full translation of the original Russian abstract

Card 2/2

STAROBINETS, G.L.; POVARKOV, E.V.

Partition chromatography of aromatic hydrocarbons on rubberlike polymers. Zhur.anal.khim. 15 no.4:405-408 Jl-Ag '60. (MIRA 13:9)

1. I.Lenin Byelorussian State University, Minsk.
(Chromatographic analysis)
(Polymers)
(Hydrocarbons)

POVARKOV, [illegible]; [illegible]

Possibilities [illegible] improvement of [illegible] and delivery services. Zhel.dor.transp. [illegible] (MIRA [illegible])

1. Nachal'nik gruzovoy sluzhby [illegible] (for Povarkov).
2. Zamestitel' nach. [illegible] Donetskoy dorogi (for [illegible]).

POVARKOV, Ya.Ya. (Moskva)

Science against war. Priroda 50 no.1:118-119 Ja '61. (MIRA 14:1)

(War) (Scientists)

SOV/26-59-6-14/51

30(9)

AUTHOR: Povarkov, Ya.Ya., (Moscow)

TITLE: A Great Materialist of Ancient Greece. In Commemoration of the 2,300th Anniversary of the Birth of Epicurus

PERIODICAL: Priroda, 1959, Nr 6, pp 69-74 (USSR)

ABSTRACT: The author considers Epicurus as a forerunner of modern materialism. Towards the end of the article he quotes passages from Lenin's works, which illustrate the attitude of the Soviet statesman to the Greek philosopher. There is 1 photograph and 13 Soviet references.

Card 1/1

POVARKOV, Ya.Ya. (Moskva)

Great materialist of ancient Greece. Priroda 48 no.6:69-74 Je '59. (MIRA 12:5)
(Epicurus)

POVARKOV, Ya.Ya. (Moskva)

The great thinker of ancient Greece; 2500th anniversary of the birth of Heraclitus of Ephesus. Priroda 50 no.8:84-87 Ag '61. (MIRA 14:7)

(Heraclitus, of Ephesus)

SOV/137-58-10-20636

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 44 (USSR)

AUTHOR: Povarkov, Yu.V.

TITLE: Mechanized Mold Lubrication Coating (Primeneniye mekhanizirovannoy smazki izlozhnits)

PERIODICAL: Tr. Nevsk. mashinostroit. z-da, 1957, Nr 2, pp 79-81

ABSTRACT: A device of improved design for mechanized lubrication coating (DML) of molds has been developed at the shaped-steel department of the Neva Machinery Plant. The DML is driven by compressed air and has a rotating, bladed diffuser. Coating lacquer is delivered through a flexible hose from a tank in a special chest to the mid-portion of the guide tube. A mixture of lacquer and air is formed by injection of air through the guide tube. At the end of the tube and within the rotor there is a conical separator for uniform distribution of the lubricant to the rotor blade. The lacquer has to be fluid in its consistency. If the lacquer is too thick, kerosene may be added to liquify it, up to 15% of the original. The chest with the lacquer tank also contains a kerosene tank, in which the DML is held when not in operation. It is stated that this improved DML does a

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SOV/137-58-10-20636

Mechanized Mold Lubrication Coating

superior job of coating the molds. The molds are coated when in horizontal position. The time required for the operation is 10-15 sec. A sketch of the DML design is provided.

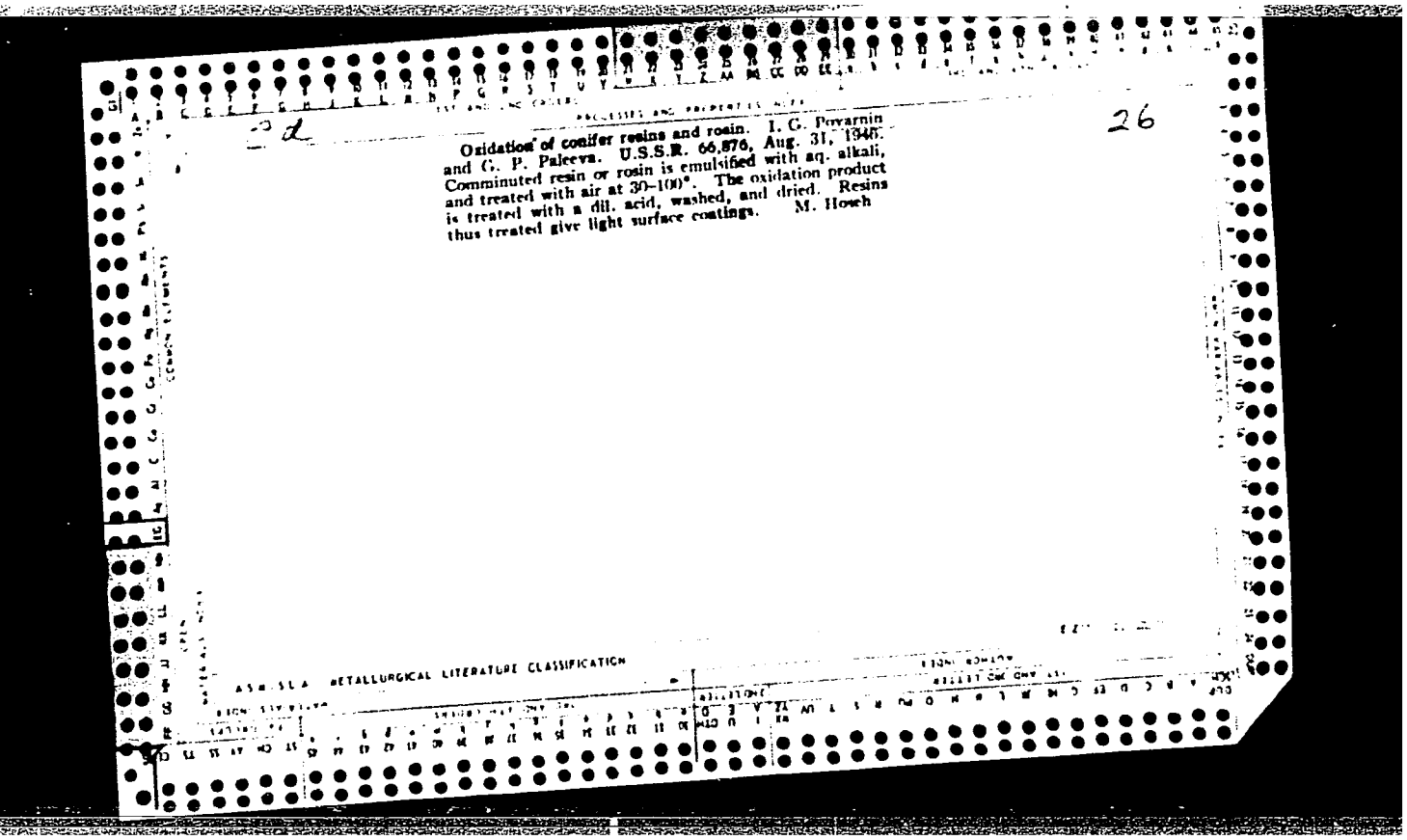
V.P.

1. Molds--Lubrication 2. Varnish--Applications 3. Industrial equipment--Performance

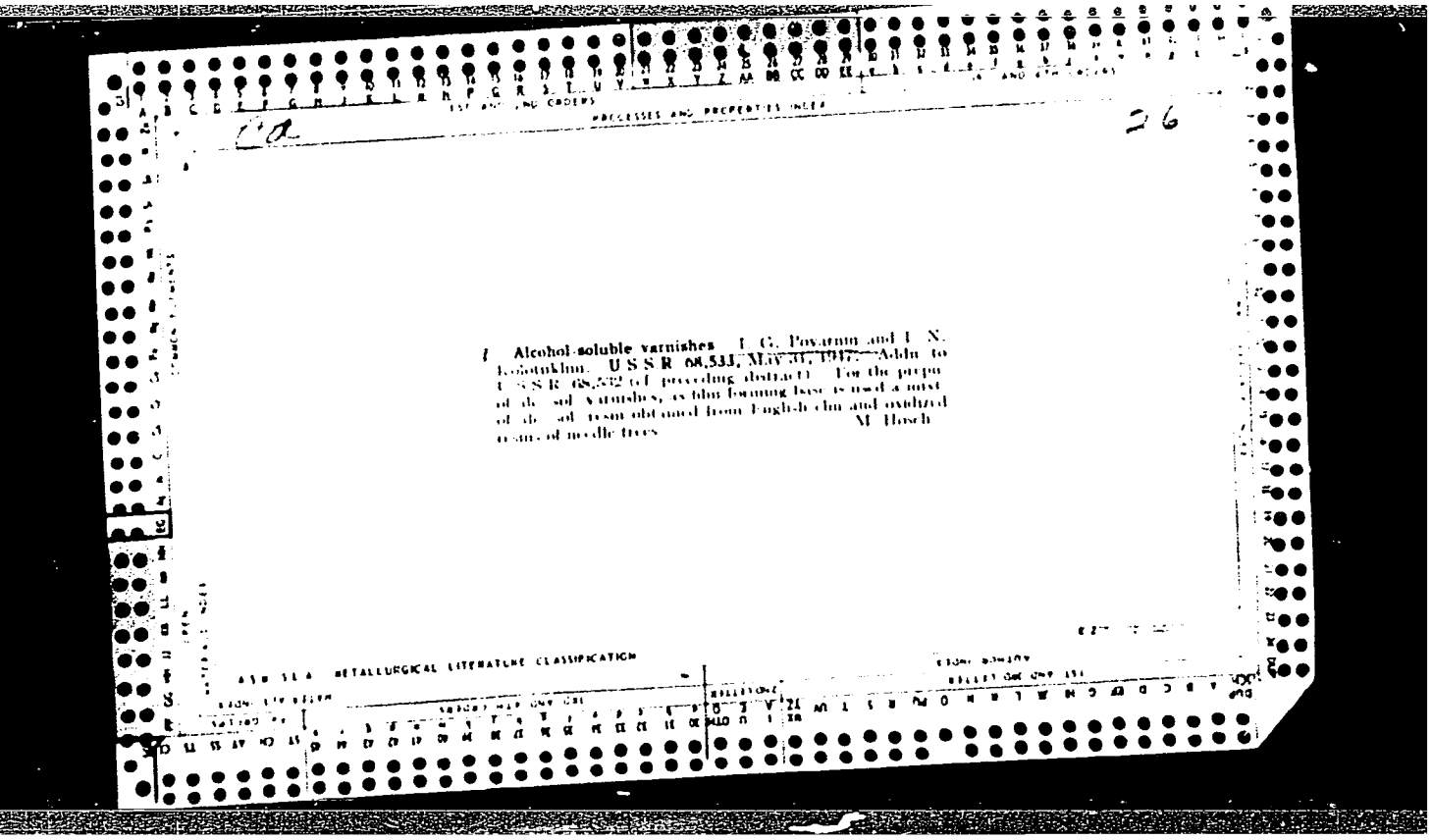
Card 2/2

POVARNIN, G.G.

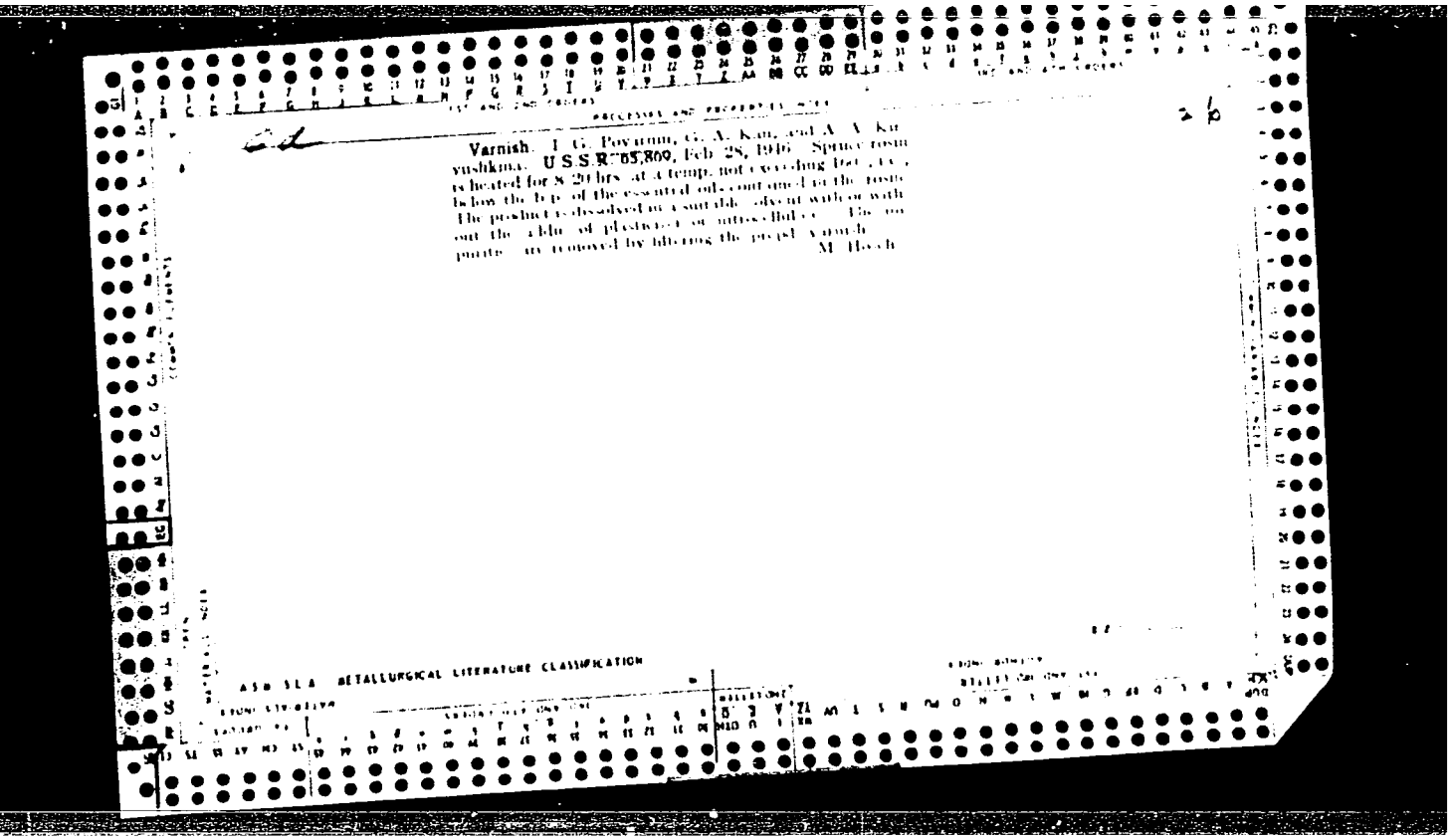
[Production of tan liquors from domestic raw materials] Proizvodstvo dubil'nykh sokov iz mestnogo syr'ia. Moskva, Gos. izd-vo mestnoy promyshl. RSFSR, 1945. 63 p.
(Tannins) (MLRA 8:6)



Oxidation of conifer resins and rosin. I. G. Pevarnin and G. P. Paleeva. U.S.S.R. 66,876, Aug. 31, 1946. Comminuted resin or rosin is emulsified with aq. alkali, and treated with air at 30–100°. The oxidation product is treated with a dil. acid, washed, and dried. Resins thus treated give light surface coatings. M. Hoseh

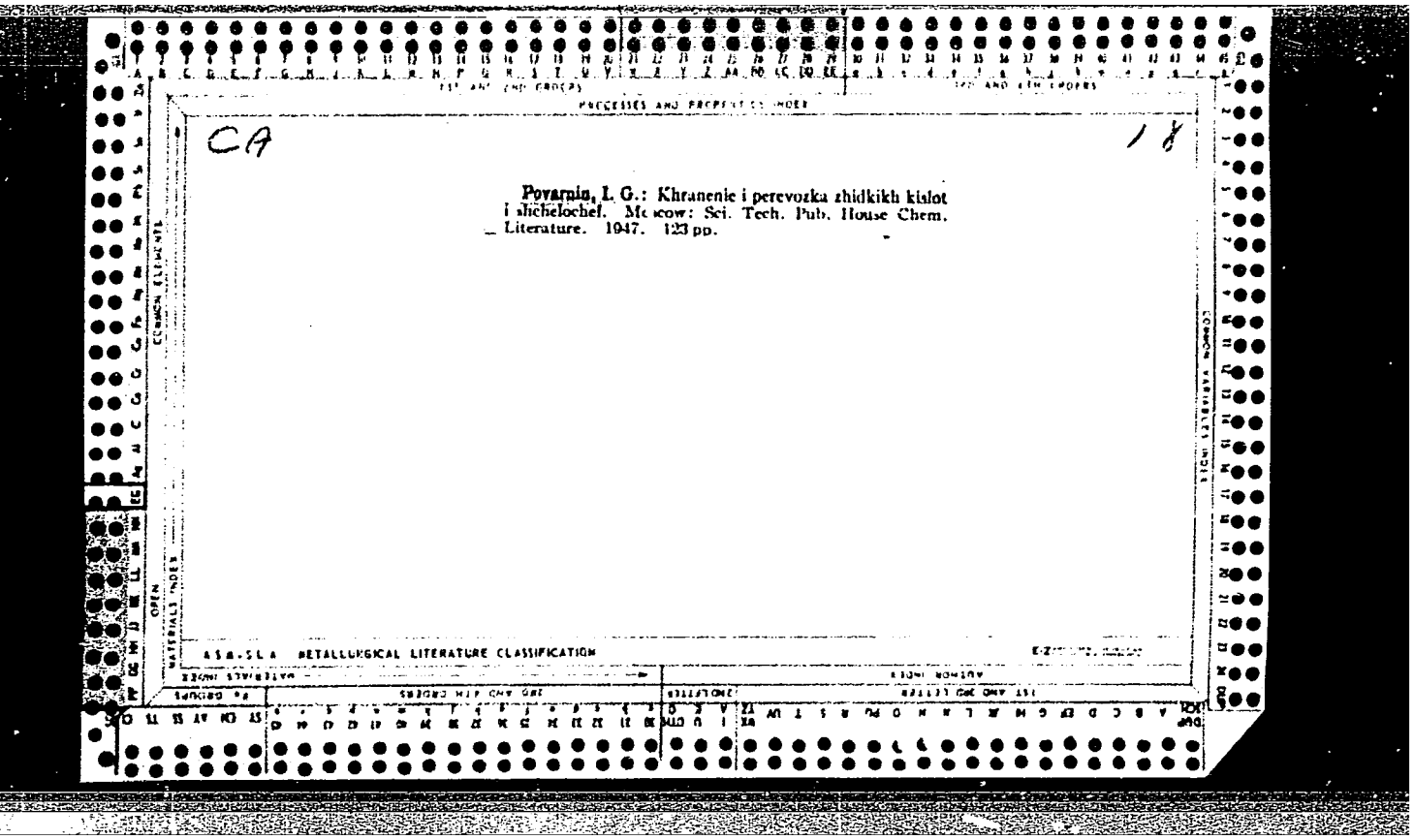


Alcohol-soluble varnishes I. G. Povarnin and I. N. Lobotukhin. U S S R 68,533, May 31, 1947. Addn to U S S R 65,572 (cf preceding abstract). For the prepn of the sol varnishes, as film forming base is used a mixt of the sol resin obtained from English elm and oxidized resin of needle trees. M Hosch



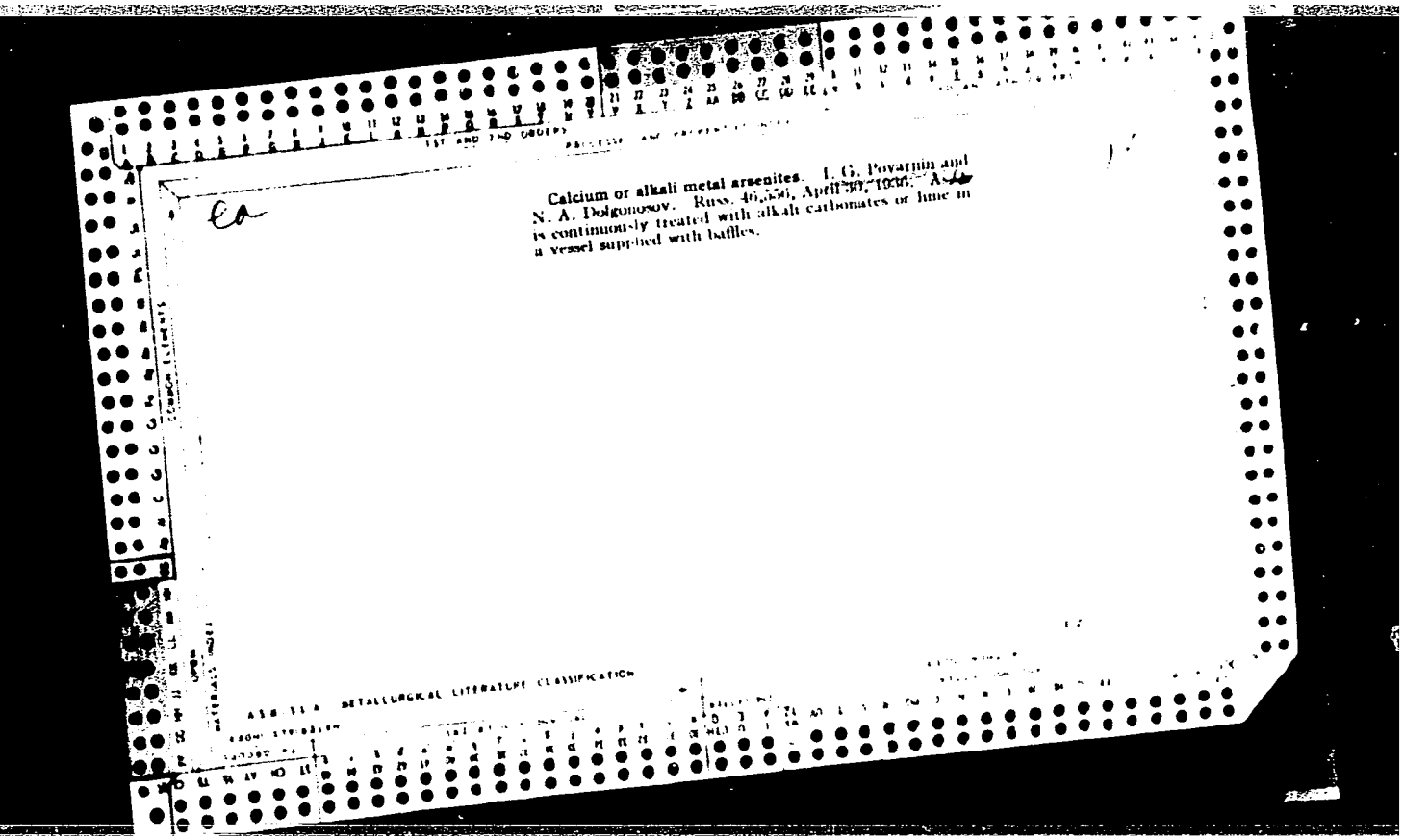
Varnish. I. G. Povarnin, G. A. Kan, and A. V. Kurvushkina. U.S.S.R. 65,809, Feb. 28, 1946. Spruce rosin is heated for 8–20 hrs. at a temp. not exceeding [illegible] below the b.p. of the essential oil contained in the rosin. The product is dissolved in a suitable solvent with or without the addn. of plasticizers or nitrocellulose. The impurities are removed by filtering the prepd. varnish. M. Hoch

A S M S L A METALLURGICAL LITERATURE CLASSIFICATION



CA 1 8

Povarnin, I. G.: Khranenie i perevozka zhidkikh kislot i shchelochei. Moscow: Sci. Tech. Pub. House Chem. Literature. 1947. 123 pp.



Ca

Calcium or alkali metal arsenites. I. G. Povarnin and N. A. Dolgonosov. Russ. 40,550, April 30, 1936. A solution is continuously treated with alkali carbonates or lime in a vessel supplied with baffles.

A S & T A METALLURGICAL LITERATURE CLASSIFICATION

ALADYEV, I. T.; POVARNIN, K. P.; MALKINA, L. I.; MERKEL, E. Yu.

"Investigation of the cooling properties of ethyl alcohol at pressures to 800 ATM."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

G. M. Krzhizhanovskiy Power Inst.

ALAD'YEV, I.T.; MALKINA, L.L.; POVARNIN, P.I.

Investigation of cooling properties of methyl alcohol at pressures (98-392).10^5 newton per square meter. Inzh.-fiz.zhur. 6 no.10:83-87 O '63. (MIRA 16:11)

1. Energeticheskiy institut imeni G.M.Krzhizanovskogo, Moskva.

L 9799-66 EWT(l)/EWT(m)/ETC/EPF(n)-2/EWG(m)/EWP(j)/T RPL WW/JW/WE/GS/RM

ACC NR: AT6001352 SOURCE CODE: UR/0000/65/000/000/0059/0062

AUTHOR: Alad'yev, I. T.; Povarnin, P. I.; Malkina, L. I.; Merkel', Ye. Yu.

ORG: Power Institute im. G. M. Krzhizhanovskiy (Energeticheskiy institut)

TITLE: Investigation of the cooling properties of ethanol at pressures up to 800 x 9.8 x 10^4 newtons/meter^2

SOURCE: Teplo- i massoperenos. t. 1: Konvektivnyy teploobmen v odnorodnoy srede (Heat and mass transfer. v. 1: Convective heat exchange in an homogeneous medium). Minsk, Nauka i tekhnika, 1965, 59-62

TOPIC TAGS: ethanol, cooling, heat transfer

ABSTRACT: The experiments were carried out in a flow of alcohol in 1Kh18N9T stainless-steel seamless tubes with inside diameters of 0.0006 to 0.0021 meters and length to diameter ratios from 20 to 175. Tube wall temperature reached 973K, the temperature of the liquid varied from 288 to 623K, and the flow velocity of the alcohol was 5 to 60 meters/sec. The maximum specific heat fluxes reached 35 x 10^6 x 1.163 watts/meter^2. The experiments showed that heat transfer at pressures of 300 x 9.8 x 10^4 newtons/meter^2 is accompanied by thermal

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L 9799-66

ACC NR: AT6001352

decomposition of ethanol with the formation of a coke-like deposit on the contact surface. Thermal decomposition of ethanol at a flow velocity less than 30 meters/sec starts at wall temperatures of 623-673 K and is practically independent of the liquid temperature. At higher velocities, decomposition of the alcohol is not observed even at a wall temperature of 973 K. At a pressure of 800 x 9.8 x 10^4 newtons/meter^2, thermal decomposition was not observed. In the experiments at 300 x 9.8 x 10^4 newtons/meter^2, pseudo-boiling was observed and led to an increase in the heat transfer rate. Pseudo-boiling was not observed at the pressure of 800 x 9.8 x 10^4 newtons/meter^2. In the fully developed turbulent flow of alcohol in the absence of coke formation and pseudo-boiling at a pressure equal to or greater than 300 x 9.8 x 10^4 newtons/meter^2, heat transfer to ethanol can be calculated by the laws of convective heat transfer. The data obtained satisfy the equation

$$Nu_{l_x} = 0{,}021\, Re_{l_x}^{0.8} Pr_{lg}^{0.43} \left(\frac{Pr_{lg}}{Pr_w}\right)^{0.25} \left(\frac{l_x}{d}\right)^{0.2},$$

where subscripts lg and w refer to the liquid and wall, respectively, and l_x is the length of the tube from the start of heating to the calculating section. Analysis of the experimental results shows that there exists an optimum pressure of the applied pressure at which pseudo-boiling is most developed. Further increase in pressure leads to a worsening of conditions for the formation of a new phase and the generation of pseudo-boiling.

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[06]

L 9799-66
ACC NR: AT6001352

0

SUB CODE: 11, 07/ SUBM DATE: 31Aug65/ ORIG REF: 000/ OTH REF: 002

ATD PRESS: 4164

Card 3/3

S/0207/63/000/003/0143/0147

ACCESSION NO: AP3002821

AUTHOR: Povarnin, P. I. (Moscow)

TITLE: Investigations in underheated methyl alcohol flow critical boiling

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1963, 143-147

TOPIC TAGS: critical boiling, methyl alcohol, saturation temperature

ABSTRACT: The critical boiling in forced methyl alcohol flow in GOST No. 6995-54 has been investigated in tubes of small diameter and under 5 to 70 atm pressures. Flow speed was 45 m/sec and the underheat was from 8 to 200C below saturation temperatures. Heat rates were determined within ±12%, flow velocities ±5%, and fluid temperature ±5°. Special care was taken to eliminate the effect of deposits on the inside surface of the tubes attaining thicknesses up to 50 μ. The empirical formula used to correlate boiling in water under similar conditions was tried for this case, which relates the underheat flow rate to the temperature differential and flow speed with three arbitrary coefficients. Making use of the experimental data, these coefficients were evaluated to yield the expression

$$q_* = 1.55 \cdot 10^6 \frac{K_s^{0.65} K_s^{0.2}}{(K_1)_1} \left(1 + \frac{6.25}{T_s} \Delta t\right) \left[1 + 0.0895 \frac{W^{0.4} p^{0.1}}{K_s^{0.5} K_s^{0.25}} \left(\frac{\gamma_1}{\gamma_2}\right)^{0.45}\right]$$

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ACCESSION NO: AP3002821

where the K's are functions of fluid parameters (viscosity, heat capacity, specific gravity, etc). The correlation fits the experimental points within a band of ±20%. Orig. art. has: 7 equations and 2 figures.

ASSOCIATION: none

SUBMITTED: 18Jun62	DATE ACQ: 16Jul63	ENCL: 00
SUB CODE: AI	NO REF SOV: 007	OTHER: 001

Card 2/2

POVARNIN, P.I. (Moskva)

Critical boiling in a flow of underheated methyl alcohol. [illegible] no.3: 143-147 My-Je '63. (MIRA 16:9)
(Methanol—Thermal properties)

L 52508-65 EWT(1)/EWG(m) JW/GS

ACCESSION NR: AT5010487 UR/0000/65/000/000/0153/0159

AUTHOR: Povarnin, P.I. (Doctor of technical sciences) 12 21 2+1

TITLE: The use of thermodynamic similarity principles for the calculation of physical properties of liquids at the saturation line

SOURCE: Issledovaniye teploobmena v potokakh zhidkosti gaza (Investigation of heat exchange in liquid and gas flows). Moscow, Izd-vo Mashinostroyeniye, 1965, 153-159

TOPIC TAGS: thermodynamic similarity, saturation line, liquid physical property, heat transfer coefficient

ABSTRACT: Physical properties of various substances involved in heat exchange processes may be obtained by applying the principles of thermodynamic similarity. The procedures outlined in the paper utilize universal curves for liquid and vapor density at the saturation line, the latent heat of evaporation and surface tension, the heat conduction and heat capacity of liquids, and viscosity. At present, the method can serve only for preliminary calculations, and while some substances may be very similar in certain respects, some of their parameters may prove anomalously different. There is a hope, however, that, in the cases when transfer coefficients are of different magnitudes but the various above-mentioned curves otherwise agree in their general trends,

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L 52508-65

ACCESSION NR: AT5010487

empirically introduced correction factors may be sufficient to achieve the desired degree of accuracy. Orig. art. has: 16 formulas, 4 figures, and 1 table.

ASSOCIATION: none

SUBMITTED: 11Dec64 ENCL: 00 SUB CODE: TD

NO REF SOV: 000 OTHER: 000

Card 2/2

L 52509-65 EWT(1)/EPF(c)/EPF(n)-2/EWG(m)/EPR Pz-4/Ps-4/Pu-4 WW/GS
UR/0000/65/000/000/0160/0166

ACCESSION NR: AT5010488

AUTHOR: Povarnin, P.I. (Doctor of technical sciences) 27 B+1

TITLE: Calculation of the boiling crisis during forced flow of underheated liquids

SOURCE: Issledovaniye teploobmena v potokakh zhidkosti i gaza (Investigation of heat exchange in liquid and gas flows). Moscow, Izd-vo Mashinostroyeniye, 1965, 160-166

TOPIC TAGS: boiling crisis, heat exchange, 21 forced flow, underheated liquid, heat transfer crisis

ABASTRACT: The transition from nucleate to film boiling exhibits critical characteristics; i.e., the heat transfer coefficient changes sharply downwards, the walls of the heat exchange apparatus overheat and eventually collapse. Extended experimental investigations revealed three regions within which the crisis appears differently; 1) boiling under natural convection, 2) boiling under a forced flow of underheated liquid (the center of the flow is more than 20C below the saturation temperature), 3) boiling under a forced flow of the vapor-liquid mixture. For the second case, the author previously established (Teploenergetika, 1959, no. 4, and 1960, no. 1) the empirical equation for the critical heat load

$$q_{cr} = q_0\left(1 + \frac{B}{T_s}\Delta t_n\right)(1 + Bw^{0.8}),$$

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L 52509-65

ACCESSION NR: AT5010488

where q_o, ζ, and β are coefficients, Δt_H = temperature drop between the boiling temperature and the temperature of the coolant, w = velocity of the ecolant flow, and T_b = absolute boiling temperature at the given pressure. The present paper outlines the calculation of q_{cr}. The author claims that the results of actual calculations (not shown in the article) are in good agreement with experimental data. Orig. art. has: 15 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 11Dec64 ENCL: 00 SUB CODE: TD

NR REF SOV: 000 OTHER: 000

Card 2/2

L 52510-65 EWT(1)/EPF(c)/EPF(n)-2/EWG(m)/EPR Pr-4/Ps-4/Pu-4 WW/GS

ACCESSION NR: AT5010489 UR/0000/65/000/000/0167/0174

AUTHOR: Povarnin, P.I. (Doctor of technical sciences) 28 B+1

TITLE: The design of large capacity heat exchangers

SOURCE: Issledovaniye teploobmena v potokakh zhidkosti i gaza (Investigation of heat exchange in liquid and gas flows). Moscow, Izd-vo Mashinostroyeniye, 1965, 167-174

TOPIC TAGS: large capacity heat exchanger, heat transfer coefficient, 21 heat exchanger design, cooling system design

ABSTRACT: During the construction of large capacity heat exchangers, it is necessary to design reliably operating cooling systems since the transfer across the most intensely loaded cross sections may reach tens of millions of kilocalories per square meter. For this purpose, first of all, the amount of coolant must be sufficient for the transportation of all the heat acquired from the walls of the heat exchanger while the temperature of the coolant at the exit should not exceed a given limit. This problem can be solved by the heat balance equation of the cooling circuit, which is only briefly mentioned at the end of the article. Secondly, the temperature of the wall on the side of the cooling liquid must assure a temperature gradient sufficient to generate the passage through the wall of the entire given amount

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L 52510-65
ACCESSION NR: AT5010489

of heat without, however, raising the temperature of the "hot" side of the wall above the melting point of the metallic wall material. Consequently, the heat transfer coefficient from the wall to the coolant liquid must be calculated and the discussion of various approaches to the calculation of this coefficient represents the main body of the paper. Theoretical recommendations for the determination of transfer coefficients and of the maximum possible heat transfer are given for cases below and above critical pressures and near critical thermal loads leading to the "boiling crisis." Orig. art. has: 14 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 11Dec64 ENCL: 00 SUB CODE: TD

NO REF SOV: 008 OTHER: 000

Card 2/2

ALAD'YEV, I.T., doktor tekhn. nauk; POVARNIN, P.I., doktor tekhn. nauk; MERKEL', Ye.Yu., kand. tekhn. nauk; MALKINA, L.I., kand. tekhn. nauk

Study of the cooling properties of ethyl alcohol at $p \leqslant 300$ atm. Teploenergetika 10 no.8:70-72 Ag '63. (MIRA 16:8)

1. Energeticheskiy institut im. Krzhizhanovskogo.
(Ethyl alcohol--Thermal properties)

POVARNIN, P.I., kand.tekhn.nauk

Study of the critical point of boiling of a 96 per cent ethyl alcohol during its flow under conditions of underheating. Teploenergetika 9 no.12:57-60 D '62. (MIRA 16:1)

1. Energeticheskiy institut im. Krzhizhanovskogo.
(Ethyl alcohol--Thermal properties)

S/862/62/002/000/009/029
A059/A126

AUTHOR: Povarnin, P.I.

TITLE: Generalization of data on critical boiling in the tubular flow of water heated below saturation temperature

SOURCE: Teplo- i massoperenos. t. 2: Teplo- i massoperenos pri fazovykh i khimicheskikh prevrashcheniyakh. Ed. by A.V. Lykov and B.M. Smol'skiy. Minsk, Izd-vo AN BSSR, 1962. 100 - 105

TEXT: In this paper, the second stage of flow of the underheated liquid, namely the region of forced flow of a liquid in tubes and channels of different shapes at considerable underheatings up to a saturation temperature of $\Delta t_s >$ $> 20^\circ C$ is studied. The empirical equation

$$q_{cr} = q_0 (1 + A \Delta t_s)(1 + Bw)^{0.8} \quad (1)$$

has been derived in a previous work, where $\Delta t_s = t_s - t_l$ is heating below the saturation temperature, w the velocity of flow, q_0, A, and B are empirical coefficients depending on the pressure at which q_0 is calculated. This equation

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Generalization of data on critical boiling ....

can be converted to the form:

$$q_{cr} = q_0 (1 + A\ \Delta t_s)(1 + Bw^{0.8}). \qquad (2)$$

The critical system:

$$\left\{(Peu)_{cr};\ Pr,\ K_2,\ K_3,\ K_5,\ We,\ \frac{\gamma_2}{\gamma_1},\ \frac{\Delta t_s}{T_s}\right\} \qquad (11)$$

is used to describe critical boiling on forced flow of underheated water in tubes where

$$(Peu)_{cr} = \frac{q_{cr} c_p \gamma_1 \sigma^{1/2}}{r \gamma_2 \lambda (\gamma_1 - \gamma_2)^{1/2}};\qquad Pr = \frac{\nu}{a} = 3600\, g\, \frac{\mu c_p}{\lambda};$$

$$K_2 = \frac{\sigma^{1/2}(\gamma_1 - \gamma_2)^{1/2}}{427\, r \gamma_2};\quad K_3 = \frac{r}{T_n c_p};\quad K_5 = \frac{\gamma_1 \sigma^{1/2}}{g \mu^2 (\gamma_1 - \gamma_2)^{1/2}}, \qquad (8)$$

On the basis of the empirical equation (2) and the critical system (11), the critical equations:

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$$(Pe\,u)_{cr} = 8\cdot 10^4 K_2^{0.65} K_5^{0.2}\left(1+\frac{9.5}{T_s}\Delta t_s\right)\times$$

$$\times\left[1+0.231\frac{We^{0.4}\,Pr^{0.1}}{K_3^{0.5}K_5^{0.25}}\left(\frac{\gamma_2}{\gamma_1}\right)^{0.45}\right], \qquad (17)$$

and

$$q_{cr} = 8\cdot 10^4\frac{K_2^{0.65}K_5^{0.2}}{(Pe\,u)_1}\left(1+9.5\frac{\Delta t_s}{T_s}\right)\times$$

$$\times\left[1+0.231\frac{We^{0.4}\,Pr^{0.1}}{K_3^{0.5}K_5^{0.25}}\left(\frac{\gamma_2}{\gamma_1}\right)^{0.45}\right]. \qquad (18)$$

were obtained for the calculation of q_{cr} under the conditions mentioned. The agreement of data calculated from these equations with the experimental results was satisfactory. G.N. Kruzhilin and S.G. Teletov are mentioned. There are 2 figures.

ASSOCIATION: Energeticheskiy institut im. G.M. Krzhizhanovskogo (Power Engineering Institute imeni G.M. Krzhizhanovskiy)

POVARNIN, P.I., kand.tekhn.nauk

Study of the critical point of boiling of a 96 per cent ethyl alcohol during its flow under conditions of underheating. Teploenergetika 9 no.12:57-60 D '62. (MIRA 16:1)

1. Energeticheskiy institut im. Krzhizhanovskogo.
(Ethyl alcohol--Thermal properties)

43194
S/855/62/000/000/003/005
E031/E435

24.5200

AUTHOR: Povarnin, P.I.

TITLE: The application of thermodynamic similarity to the calculation of heat exchange

SOURCE: Teploperedacha. Energ. inst. AN SSSR. Ed. by M.A.Mikheyev. Moscow, Izd-vo AN SSSR, 1962. 60-63

TEXT: The author considers in a generalized manner the solution of the equation describing some heat exchange process for some desired characteristic α in which terms involving physical parameters such as viscosity and heat conductivity are separated from terms involving geometry, heat flow, velocity etc. For thermodynamically similar substances the first set of parameters can be expressed in terms of universal functions of non-dimensional temperature and pressure and appropriate coefficients for each substance. The quantity α can be calculated if there is known a relation between this quantity and one of the coefficients for a standard fluid; alternatively the universal functions and the coefficients for each of the criteria in the original equation describing the process can be found from the universal functions for the physical parameters and the coefficients; these

Card 1/2

Pokarnev, A. L.

Report presented at the Conference on Heat and Transfer. Minsk, USSR, 5-12 June 61.

RN-2852
55

270. V. I. Borovoy, I. K. Tous, Fusion of Bodies at High Supersonic Gas Flow.

271. A. J. Ede, The Heat Transfer Coefficient for Flow in a Pipe.

272. S. I. Britkova, L. S. Shtemenko, Experimental Investigation of Slip and Temperature Jump at Rarefied Air Flow Near the Solid Wall.

273. A. N. Devoine, On Some Results of the Investigation of Heat Transfer by Rarefied Gas at Natural Convection.

274. A. S. Ginsburg, O. I. Roslyakova, Heat Transfer at the Process of Radiative-Convective Baking by Infrared Rays

275. V. A. Baum, Influence of the Mass Transfer Coefficient on Water Temperature Distribution in the Assembly of the Water-Moderate Water-Cooled Reactor.

276. V. I. Subbotin, S. P. Kaznevsky, V. I. Sidorov, Investigation of Heat Removal by Liquid Metal Heat Agents on Models of Flat Heat Fuel Elements.

277. E. M. Faimzilber, Some Principal Problems of Criterial Methods of Heat Transfer Surface Investigation.

278. P. I. [illegible], Application of the Thermodynamic Similarity Principles for Heat Transfer Calculations.

279. M. N. Medvedev, Generalization of the Newton Law of Cooling of Bodies.

280. V. K. Shcherbakov, Peculiarities of Heat Transfer Through the Wall with Longitudinal Fins at Surface Boiling.

281. A. V. Kas'yanov, Investigation of Convective Heat Transfer in Aluminum Pipes with Fins.

282. C. J. Schneller, Some Problems of Heat and Mass Transfer Studied in The National Research Institute of Heat Engineering.

283. I. T. Elperin, Intensification of Heat Transfer Between Gas and Solid Surface by Means of Intermediate Heat Transfer Fluid.

284. M. V. Bulikov, S. S. [illegible], The Theory of Thermal and Diffusive Relaxation of an Evaporating Drop.

285. Z. L. Miropolsky, M. E. Shitsman, Critical Heat Flow at Water Boiling in Ducts.

286. I. L. Mostinsky, Application of the Corresponding State Law for Heat Transfer Calculation at Boiling of a Liquid.

67648
SOV/96-60-1-17/22

10.4000

AUTHORS: Povarnin, P. I., Candidate of Technical Sciences, and Semenov, S. T., Engineer

TITLE: An Investigation of Critical Boiling During High-pressure Flow of Under-heated Water in Tubes of Small Diameter

PERIODICAL: Teploenergetika, 1960, Nr 1, pp 79-85 (USSR)

ABSTRACT: A good deal of work has now been done on the critical boiling of water in pipes. The work arose from the need to make heat-exchange calculations in atomic piles, where the rates of flow are limited to about 10 m/sec and the critical thermal fluxes are consequently below 10^7 kcal/m^2hr. Considerable increase in this speed range will be required, which will also afford the possibility of making a closer study of the changes occurring in the critical rate of heat transfer when the rates of flow of the liquid alter. Previously published work on this subject is reviewed, and analysis of critical boiling at 35 atm leads to the empirical Eq (4), which is valid over a wide range of speeds of water flow and of temperatures. The present article gives the results of an investigation of critical boiling during the flow

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An Investigation of Critical Boiling During High-pressure Flow of Under-heated Water in Tubes of Small Diameter

of water in pipes. The tests were made in pipes of stainless steel and copper 2 - 3 mm diameter in which the length of the heated section was 10 - 30 diameters. The experimental part of the tube was heated by alternating current, and critical boiling was recognised by a jump in thermocouple readings. The experimental equipment and procedure have been described in a preceding article in Teploenergetika Nr 4, 1959. The tests were made on de-aerated double distillate in which the concentration of oxygen had been reduced to zero by the use of hydrazine; the pH value was 9 - 10. At pressures up to 100 atm, critical boiling usually caused the tubes to burn out. At 150 atm and 200 atm the temperature jump on critical boiling was not so great and the tubes could often be used again. Altogether some 200 tests were made, and the results are given in Table 1 and in Figs 1 to 6. Tests made by a number of other authors were also used in working out the results. The experimental points on the graphs deviate from the calculated curves by not more than ± 40%; more than 80% of all the points lie within ± 20% of the curves. The

Card 2/3

POVARNIN, P. I.

"Use of thermodynamic similarity principles for estimation of heat-exchange."

Report presented at the 1st All-Union Conference on Heat- and Mass- Exchange, Minsk, BSSR, 5-9 June 1961

POVARNIN, P. I.

"Application of the method of thermodynamic similarity for estimation of surface tension of liquids."

Report presented at the 1st All-Union Conference on Heat- and Mass- Exchange, Minsk, BSSR, 5-9 June 1961

POVARNIN, P. I.

"Generalization of data on the boiling crisis in tube passage of water heated up to the saturation temperature."

Report presented at the 1st All-Union Conference on Heat- and Mass- Exchange, Minsk, BSSR, 5-9 June 1961

POVARNIN, P.I., kand.tekhn.nauk; SEMENOV, S.T., inzh.

Investigating the boiling crisis of water underheated with respect to the saturation temperature and moving at high speed in pipes. Teploenergetika 6 no.4:72-79 Ap '59. (MIRA 12:3)

1. Energeticheskiy institut AN SSSR.
(Water--Thermal properties)

POVARNITSYN, M.S.

1(3); 14(10) PHASE I BOOK EXPLOITATION SOV/2606

Voprosy rascheta elementov aviatsionnykh konstruktsiy; raschet trekhsloynykh paneley i obolochek. Sbornik statey, No. 1 (Problems in Calculating Aircraft Structural Elements; Calculating of Sandwich Panels and Shells. Collection of Articles, Nr. 1) Moscow, Oborongiz, 1959. 169 p. Errata slip inserted. 2,600 copies printed.

Ed.: A.Ya. Aleksandrov, Doctor of Technical Sciences, Professor; Ed. of Publishing House: T.A. Valedinskaya; Tech. Ed.: V.P. Rozhin.

PURPOSE: This collection of articles is intended for engineers and scientific workers concerned with stress analysis of aircraft structural elements.

COVERAGE: The articles in this collection discuss problems in the structural analysis of sandwich panels with light cores, such as problems of the stability of curved panels, design of cores with consideration of transversal tension (tear-off) and the results of panel-strength tests. In addition, problems in the calculation of torsion and bending of a cylindrical shell reinforced by bulkheads are covered and the calculation of unsteady temperatures in an I-beam element is considered.

9. Nazarov, N.I., M.S. Povarnitsyn, and Ye. V. Yurlova. Calculation of Unsteady Temperatures in an I-beam Element 142

This paper presents two methods of calculating the temperature fields in an I-beam element (representing, in this particular case, a typical part of a multilongeron wing): 1) the method of direct integration of the heat-conduction equations, and 2) the method of elementary equilibrium. Cases of symmetrical and unsymmetrical heating of such elements through the outer flange surfaces are considered as well as the case of different thicknesses of flanges. Solution of the problem is given under the assumption that physical characteristics of the material and the heat-transfer coefficients do not depend on temperature variation.

3

POVARNITSYN, M.S.

Calculation of the temperature and [illegible]poration rate of the walls of a shallow channel with internal heat sources in a laminar developed flow. Inzh.-fiz. zhur. no.11:36-41 N '64.

(MIRA 18:2)

POVARNITSYN, V.A.

22592 Povarnitsyn, V.A. Lesa Daurskoy Listvenitsy SSSR. Byulleten' Mosk. O-Va Ispytateley Prirody, Otd. Biol., 1949, Vyp. 3, S. 53-67-

Bibliogr: 53 Nazv.

SO: Letopis No. 30, 1949

[illegible], V. G.

Transcarpathia - Forests and Forestry

Forests of Transcarpathia. Bot zhur. (Ukr.) 7, No. 3, 1950.

Monthly List of Russian Accessions, Library of Congress
June 1953. UNCL.

POVARNITSYN, V.O., professor, zav. kafedroyu dendrolohiyi.

Arboretum of the Kiev Forestry Institute. Bot.zhur.[Ukr.] 8 no.3:95-98 '51. (MLRA 6:9)

(Kiev--Arboretums) (Arboretums--Kiev)

POVARNITSIN, V.O.

Contributions of Russian and Ukrainian scientists to the study of plants of the Ukrainian S.S.R. Bot.zhur.[Ukr.] 11 no.2:46-54 '54. (MLRA 8:7)
(Ukraine--Botany)

POVARNITSIN, V.O.

Forest vegetation in the Polesye section of Rovno Province. Bot.zhur. [Ukr.] 12 no.1:51-63 '55. (MIRA 8:9)

1. Institut botaniki AN URSR, viddil geobotaniki
(Rovno Province--Forest ecology)

POVARNITSIN, V.O.

Academician Vladimir Nikolaevich Sukachev. Bot.zhur. [Ukr.] 12 no.4:102-107 '55. (MLRA 9:3)
(Sukachev, Vladimir Nikolaevich, 1880-)

BILIK, Gavriil Ivanovich; POVARNITSIN, V.O., doktor biologicheskikh nauk, professor, vidpovidal'nii redaktor; TSESHKOVS'KIY, F.M., redaktor vidavnitstva; ZHUKOVS'SKIY, A.D., tekhnicheskiy redaktor

[Vegetation of the lower Dnieper Valley] Roslunnist' Nyzhn'oho Prydniprov'ia. Kyiv, Vyd-vo Akademii nauk Ukrains'koi RSR, 1956. 177 p. (MLRA 10:2)

1. Chlen-korrespondent Akademii nauk URSR (for Povarnitsin)
(Dnieper Valley--Botany)

14-57-7-15062

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 7, p 142 (USSR)

AUTHOR: Povarnitsyn, V. A.

TITLE: Siberian Pine Forests in the USSR--a Technological Evaluation /Lesa iz sibirskoy pikhty v SSSR (Tekhnolog. ocherk.)/

PERIODICAL: V sb. Akad. V. N. Sukachevu k 75-letiyu so dnya rozhdeniya, Moscow-Leningrad, AN SSSR, 1956, pp 408-424

ABSTRACT: The article presents a detailed description of the Siberian pine forests of the USSR, which comprise an area of eight million hectares. Pine forests are spread in the northeastern part of the European USSR, in eastern and western Siberia, and in the Altay region. Among the peculiarities of these pine forests are the mixed ages of the trees and the differences

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Siberian Pine Forests in the USSR (Techn.)

between the mountain and the plains pine stands. The pine stands with green moss, growing in loamy soils on mountain slopes, and the pine stands mixed with Siberian pine are the most valuable forest types. Other pine stands are found also. These may be undergrown with the haircap and sphagnum moss types, with broad-grass, with complex cover, and with grassy marshes. The author studied the Siberian pine forests in the plains of the northeastern European USSR, in the Central Siberian Plateau, in the northern and southern Ural mountains, in the Altay, Gornaya Shoriya, Sayan, and Khamarda-ban. He also studied vertical distribution of various forest types. The article contains a table which shows many edapho-phytogene types of the pine forests in the described regions. A bibliography of 59 titles is included.

Card 2/2 A. R.

Povarnitsin, V. C.

USSR/Forestry - Bio[illegible] the Forest.

Abs Jour : Ref Zhur - Biol., No 3, 1959, 10971

Author : Povarnitsin, V.A., Chemishkov, M.I.

Inst : [illegible]

Title : Types of Forest in the Feofaniya Experimental Forest Area of the Academy of Science UkrSSR.

Orig Pub : Ukr. botanichnyy zh., 1957, 14, No 1, 75-85

[illegible] conducted in the Feofaniya forest area have [illegible] of oak-hornbeam groves and of pine, [illegible] The first of these in- [illegible] quality classes

POVARNITSIN, V.O.

Principles underlying the classification of forest vegetation of the Ukrainian S.S.R. [with summary in English]. Ukr.bot.zhur. 14 no.4:81-91 '57. (MIRA 11:1)

1.Ukrains'ka sil'skogospodars'ka akademiya, Lisogospodars'kiy fakul'tet, Kafedra dendrologii.
(Ukraine--Forests and forestry)

POVARNITSIN, V.O.

In memory of Andrii Maksymovych Hurmaza.. Ukr.bot.zhur.13 no.1: 105-106 '56. (MLRA 9:9)
(Hurmaza, Andrii Maksymovych, 1908-1955)

LAPKIN, I.I.; POVARNITSINA, T.N.

Organosilicon compounds. Part 2: Compounds containing alkoxyphenyl radicals. Zhur.ob.khim. 33 no.4:1289-1292 Ap '63. (MIRA 16:5)

1. Permskiy gosudarstvennyy universitet.
(Silicon organic compounds)

L 10665-63 EPF(c)/EWP(j)/EWT(m)/BDS--ASD--Pr-4/Pc-4--RM/WW
S/079/63/033/004/006/010 64 63

AUTHOR: Lapkin, I.I., Povarnitsina, T.N.

TITLE: Research in the field of silicoorganic compounds. II. Compounds containing alkoxyphenyl radicals

PERIODICAL: Zhurnal obshchey khimii, v. 33, no. 4, 1963, 1289-1292

TEXT: This work contains a description of the results of a study of the reactions of aryltrichlorosilanes with bromomagnesiumalkoxyphenyls and is a continuation of an investigation of silicoorganic-containing alkoxyphenyl radicals. It is established that the final product of the reaction of bromomagnesium-o-alkoxyphenyls with aryltrichlorosilanes under the ordinary conditions of Grignard reactions is aryl-o-alkoxyphenylphenoxychlorosilanes. These latter compounds when heated with water hydrolyze easily to form aryl-o-alkoxyphenylphenoxyhydroxy-silanes.

ASSOCIATION: Perm' State University

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